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|-------------------------------|----------------------------|------------------|
| <b>Notice of Allowability</b> | Application No.            | Applicant(s)     |
|                               | 09/587,076                 | TRAVERSAT ET AL. |
|                               | Examiner<br>Chongshan Chen | Art Unit<br>2162 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTO-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 18 October 2004.
2.  The allowed claim(s) is/are 1-56.
3.  The drawings filed on 18 October 2004 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
 of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No: \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached  
1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of  
Paper No./Mail Date \_\_\_\_\_.

**Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 1/13/05
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

  
**JEAN M. CHONGSHAN CHEN**  
**PRIMARY EXAMINER**

## **DETAILED ACTION**

1. This action is responsive to Amendment filed on 18 October 2004.

### ***Information Disclosure Statement***

2. The information disclosure statements (IDS) submitted on 18 October 2004, 23 August 2004 and 19 August 2004 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Drawings***

3. The drawings were received on 18 October 2004. These drawings are acceptable.

### ***Allowable Subject Matter***

4. Claims 1-56 are allowable in light of the prior art made of record.
5. The following is an examiner's statement of reasons for allowance:

As to claims 1 and 44, the prior art of record alone or in combination does not fairly teach or suggest "providing a store heap for the process, wherein the store heap is comprised in the virtual heap; providing an in-memory heap for the process, wherein the in-memory heap comprises a cached portion of the store heap for the process, and wherein the in-memory heap is comprised in the virtual heap; performing an atomic transaction on the virtual heap", "wherein said performing the atomic transaction changes a state of the virtual heap by modifying one or more portions of the virtual heap; committing the atomic transaction by accepting the modifications to the one or more portions of the virtual heap"; and "rejecting the atomic

transaction by restoring the virtual heap to the state of the virtual heap prior to said performing the atomic transaction if one or more of the one or more transaction tasks in the atomic transaction generates an error when performed”.

As to claims 16, the prior art of record alone or in combination does not fairly teach or suggest “providing a store heap for a first process executing within the virtual machine, wherein the store heap is comprised in the virtual heap; providing an in-memory heap for the first process, wherein the in-memory heap comprises a cached portion of the store heap for the first process, and wherein the in-memory heap is comprised in the virtual heap”, “committing the first operation on the first portion of the virtual heap by accepting the modification to the first portion of the virtual heap”; and “rejecting the first operation on the first portion of the virtual heap by restoring the virtual heap to the state of the virtual heap prior to said performing the first operation if the first operation generates an error when performed”.

As to claim 31, the prior art of record alone or in combination does not fairly teach or suggest “a first memory coupled to the device, wherein the first memory is configured to store a store heap for the process, wherein the store heap is comprised within a virtual heap for the process; a second memory coupled to the device, wherein the second memory is configured to store an in-memory heap for the process, wherein the in-memory heap is comprised within the virtual heap, wherein the in-memory heap comprises cached portions of the store heap for access by the process”; “performing an atomic transaction on the virtual heap”, “committing the atomic transaction by accepting the modifications to the one or more portions of the virtual heap”; and “rejecting the atomic transaction by restoring the virtual heap to the state of the virtual heap prior

to said performing the atomic transaction if one or more of the one or more transaction tasks in the atomic transaction generates an error when performed”.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

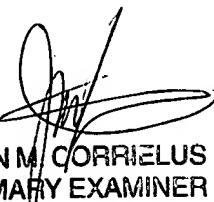
***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chongshan Chen whose telephone number is (571)272-4031. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (571)272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chongshan Chen  
January 13, 2005

  
JEAN M CORRIELUS  
PRIMARY EXAMINER